

**Comments on the Draft “Guidelines” Staff Report  
on  
Eligibility Criteria and Conditions for Incentives for Solar Energy Systems**

submitted to  
California Energy Commission

by  
California Building Performance Contractors Association

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**Introduction**

The CBPCA appreciates this opportunity to comment on the draft staff report, ***SB1 Eligibility Criteria and Conditions for Incentives for Solar Energy Systems***. The CBPCA presently trains and monitors contractors in comprehensive “home performance” energy-related analysis and improvement in its Green Home Energy Upgrade programs ([www.cbPCA.org](http://www.cbPCA.org)) in both northern and southern California. These CBPCA programs are currently sponsored by PG&E, SCEdison, and Anaheim Public Utilities. We have trained several hundred contractor personnel and continue to do so with solid utility support and strong participation by contractors.

We commend the Commission staff for a thorough and thoughtful report outlining its recommendations for CSI program requirements. The CBPCA appreciates the staff’s diligence and generally agrees with its recommendations, with some qualifications described herein to refine those recommendations. We are particularly concerned with the energy efficiency aspects of the staff’s proposed eligibility criteria for energy efficiency in existing homes as well as the proposed implementation schedule culminating in a January 1, 2009 rollout of a program with no change in the present energy efficiency requirements. This letter outlines our position on these matters and offers some specific suggestions for refinement of the draft report.

**The importance of strong energy efficiency provisions in SB1 implementation**

We believe that this is a time of great opportunity for improvement in the energy efficiency of existing homes through the California Solar Initiative. SB1 dictates that all cost-effective energy efficiency improvements should be addressed as a precondition to access to solar PV financial incentives. We believe that directive should be taken literally. Homeowners know little about the major opportunities their homes offer for energy and peak demand savings as well as cost savings and a broad range of non-energy benefits for themselves and society. Public interest in the CSI provides an opportunity to educate

homeowners on those possibilities and encourage a level of energy efficiency investment that is both aggressive and realistic.

We strongly support the CSI's efforts to encourage maximum solar PV adoption by homeowners. However, ultimately it makes no sense to make little if any energy efficiency improvement (as is too often the case with audit-only programs) and instead install a very large solar system to meet most of a home's peak demand...when the alternative exists to divert some of that solar system's cost to reduce the building's energy use and peak demand, thereby allowing a smaller and less costly solar system to be equally effective—with a greater net energy savings at equal or lesser cost.

The comprehensive "home performance" approach obviously delivers the greatest possible energy and peak demand savings, since it simultaneously corrects both building and mechanical systems deficiencies. Many other programs exist in California to make smaller but still valuable improvements in each home's energy use. But the current CSI approach requires no actual improvements—only an online self-administered audit. We believe that the CSI should more actively encourage a higher degree of engagement with those energy efficiency capabilities and programs.

#### **Evaluation of the Online Audit Approach**

We note that the draft report appears to propose essentially no change to the present audit-only energy efficiency criterion for 2009 and beyond, subject only to a possible set of improvements, presented only in concept form, at some unspecified time beyond the 1/1/2009 proposed implementation. If that position is maintained, we certainly support the staff's suggestion that an evaluation of the energy-saving results of the online audit should be made, particularly since the documented history of such audit-only program results is not good. This assessment should be begun as soon as possible and provide ongoing statistics on the extent of improvements made, so that decisions on possible changes can be made as early as possible.

#### **Recommended Schedule Acceleration**

Even with an enhanced energy efficiency compliance approach, we believe that the proposed January 2009 rollout date is later than necessary. Even if other aspects of the staff recommendations require such a delay, the energy efficiency criteria could be changed as a separate earlier step. Any delay in implementing new eligibility criteria results in lost opportunities for energy savings. In addition, any delay contributes to further inefficient use of the participants' investment during the interim period, since the present audit-only requirement inevitably results in less-informed homeowners and a less advantageous allocation of those dollars between energy efficiency measures and solar system size. Also, the Governor's Executive Order on "loading order" stipulates that all cost-effective energy efficiency improvements should be made before expenditures are made on renewable energy sources such as solar PV.

The present relatively low emphasis on energy efficiency in the CSI should be corrected as soon as possible to avoid further lost opportunities for savings to the participant and society at large. We suggest that if the Guidelines are finalized as proposed by the staff on

December 19, 2007, the utilities do not need another full year to prepare for their implementation. We note in this regard that the draft report's concluding section on this transition indicates the likelihood that the publicly owned utilities may need to have their own approaches to implementation already finalized (July 1, 2007), presumably based only on informal Commission staff guidance before this draft was completed. In that context it would seem that the IOUs should not need an additional eighteen months.

We therefore propose that the rollout schedule for implementation of CSI program revisions to include at least the energy efficiency portion of the new Guidelines should be no later than April 1, 2008. Since the staff's final recommendations for the Guidelines will be known within a month after this August 22, 2007 workshop, this accelerated schedule would still give the utilities over six months to prepare for rollout of the new provisions. This should be ample, especially since the utilities are likely to have already been advocating or even preparing for some of the changes.

#### **Recommended Interim Energy Efficiency Compliance Refinements**

The present staff report draft proposes to simply extend the present audit requirement for energy efficiency compliance. If the Guidelines could be incorporated into updated program rollouts statewide by April 1, 2008 as we propose above, this simplification of the transition would be very reasonable. However, if it is determined that the implementation date should be much later (e.g., January 1, 2009 as the staff now proposes) we recommend an interim change.

We understand that 2008 is rapidly approaching and utilities would have to establish administrative and public education programs fairly quickly to affect much of the 2008 CSI applications for existing homes. For that reason we propose only the simplest possible change for early 2008 that would both increase the program's impact and provide a useful pilot test of a similar change that we propose for the later program update.

Our recommended interim change is simply to make information available to all homeowners about a variety of options they may wish to consider in lieu of the basic online audit. Those options would consist of a low-fee in-home in-person checklist audit, without extensive performance testing, and a full paid home performance assessment with extensive testing and analysis of the home and a comprehensive set of recommendations for maximum energy efficiency and other non-energy benefits not otherwise obtainable. This is easily implemented, with no significant administration required beyond providing informational information on these options as a part of the routine program outreach effort.

#### **Recommended 2009 Upgrading of Energy Efficiency Compliance Requirements**

We do not believe that continued reliance only on the existing online audit-only approach for all homes is in the State's best interest. We generally support the scope of the staff suggestions for further improvements in the future, although earlier implementation is needed. There is time now to do more to prepare for a 2009 rollout of a much more effective energy efficiency gateway for the CSI.

The staff's recommended 2009+ energy efficiency guideline is practical and relatively easily administered. As noted above, we urge a faster timetable if possible, and at least

some minimal interim improvements for 2008. But whether or not changes can be made before 2009, we believe that significant improvements are possible at that point to the presently proposed 2009+ guideline that could greatly improve the value of the CSI in existing homes. Our proposed improvements are based on division of the existing homes into quartiles by energy use and applying increasingly extensive improvements to higher-use homes, similar to the future concept proposed by staff.

CBPCA urges implementation now of the staff's future-action concept of placing homes into quartiles with respect to their energy use and establishing more stringent requirements for the highest energy users. In a separate later section, we suggest a slightly different metric for this classification of homes. This section presents our proposed approach to energy efficiency compliance requirements in the 2009 implementation. This approach provides minimum requirements for homes in each quartile plus more extensive options for all homeowners who wish to do more.

**1. Null option for all quartiles:** Require a standard administrative fee (say \$500) for all CSI applicants (all 4 quartiles), but waive the fee for those who actually implement significant EE measures. This provides an "exit ramp" for those who want solar but actively resist taking efficiency measures. Alternatively, they could be denied access to the solar incentives or allowed only limited incentives, but we feel this could result in controversy concerning equitable treatment of all applicants.

**2. Lowest-usage quartile:** Allow homeowners in this group to use the existing online audit to meet the minimum requirement. For this quartile, actual energy-saving measures would be encouraged but not required—as is the case now. No change.

**3. Two middle quartiles:** Also rely on the existing online audit but add a requirement for evidence of some minimum level of actual energy efficiency improvements made. Those homeowners would submit a simple self-certification of actions taken in response to the audit (or any of the more thorough options below), subject to (rare) verification. To avoid penalizing those who have already done some energy efficiency improvements, it shouldn't matter whether the actions are new or already taken before the audit, so long as they are accepted energy efficiency measures. Provide a list of acceptable minimum actions, using a point system like LEED...easily done as a scored and totaled checklist on the self-certification form. Examples could include CFLs, HVAC filter replacements, pool filter pump timer cutbacks, setback thermostats, routine HVAC mechanical equipment maintenance agreements, new Energy Star appliances, and other relatively easy upgrades.

The point here is to gather low-hanging fruit from a large population of homes but keep the minimum requirement simple and economical for homeowners. This approach also reduces program administrative costs and focuses the program more on homes with greater energy savings opportunities. However, all applicants in these three quartiles should also be exposed to the full range of other options (described below), for educational purposes. Some homeowners in these three quartiles will be interested in doing more to make their homes more efficient, if they are made aware that those options exist. This requires only some fairly simple utility effort to explain the options.

**4. Top quartile "gross polluters:"** These 25% of homes use 50% of the energy consumed by all existing homes. Put another way, their average energy use per home is three times as great as the average for everyone else, so they are causing much more of the environmental impact and are also more likely to have substantial savings opportunities.

- Option 1 for the gross polluters: Pay the "standard" fee and get the PV with no further EE effort. But like everyone, they would be exposed to descriptions of the other options. This is an important large-scale educational opportunity.
- Option 2 for gross polluters: Require a walk-through audit, no more than an hour, no testing (except basic wave-the-probe combustion safety), by a licensed home inspector, a HERS rater, or a building performance contractor, all to include a standard checklist report and basic recommendations including both peak and baseload measures. They would be required to submit the same verifiable self-certification form that indicates what improvements they have made. They would be subject to higher "score" requirements on this checklist than required for the bottom three quartiles. The HERS Phase 2 Rating Protocol could also be used for this audit.
- Option 3 for gross polluters: Full at-cost home performance assessment plus at least the basic self-certification of measures implemented (Option 2, with the same higher score requirement)...The idea here is that exposing these homeowners to a home performance contractor's assessment would educate and convince many of them to do MORE than the minimum. This could be further encouraged by a special utility incentive for a comprehensive retrofit.

We would expect that at least at first, relatively few homeowners would choose this home performance option, due to its cost, although as awareness and understanding of its broader benefits spreads we believe its use would increase. At present, the number of trained home performance analysts/contractors is limited but continues to grow and should be adequate to keep up with demand assuming continued utility support. And a moderate overload would actually be useful in creating demand for such trained contractors and encourage more rapid growth of the qualified contractor pool. Also, since the homeowners have other options any such capacity limitations wouldn't be a roadblock to the process.

#### **Appropriate Energy Use Metric to Identify Problem Homes**

Staff proposes that the metric for defining energy-use quartiles should be energy use per square foot, thereby focusing on energy use intensity and enabling benchmarks for target levels of energy use. However, we suggest that energy use per square foot may not be of sufficient value to justify the effort required to provide the home size data, and may also be aiming at the wrong target. If a home of any size has moderate total energy use, it may not be worthwhile to push for further substantial energy savings that require active auditing and analysis, as proposed by staff. But if a home has relatively high energy use, no matter whether that "gross polluter" status is due to home size, specific technical deficiencies, or resident behavior, that home is still a top candidate for efficiency improvement before solar PV incentives should be allowed.

The use of energy use per square foot in effect excuses larger homes from the full effects of their high energy use, and also ignores the fact that all else equal, smaller homes tend to have higher energy use per square foot due to a variety of technical factors such as building surface-to-volume ratio and the existence of a full set of usually-deficient mechanical equipment.

In addition, a purely practical reason for use of total energy is that the utilities already have that data, whereas the use of energy per square foot would require extensive data mining and assembly or physical measurement of each house. Even then the result could often be incorrect due to imperfections in available data and ambiguities in defining conditioned versus unconditioned spaces in many homes. This in turn could lead to misclassifications of homes into incorrect quartiles with the wrong requirements for improvement appropriate to the individual homes involved. For all these reasons we believe a simple high-bill approach is preferable and should be a major element of the CSI strategy, both for its higher likelihood of energy savings and its relative ease of implementation.

### **Conclusion**

CBPCA offers these comments and suggestions for program refinements as modest but effective and achievable ways to strengthen the impact and value of the CSI as it applies to existing homes. We believe the CSI presents a unique opportunity now to encourage major energy efficiency improvements and improved resource utilization in the inherently hard-to-reach residential market. That opportunity would be lost if the CSI continues into 2009 and beyond with only the current online audit requirement.

We also see the CSI as a powerful opportunity to educate the public about the value of energy efficiency and the variety of options available, from minimum compliance to maximum energy use reductions and environmental sustainability through home performance upgrades.

We will be pleased to assist the Commission in any way to facilitate the best possible CSI Guideline for energy efficiency requirements in existing homes.

Respectfully submitted,  
CALIFORNIA BUILDING PERFORMANCE  
CONTRACTORS ASSOCIATION

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